

Notice of Allowability

Application No.

10/600,125

Examiner

Thinh T. Nguyen

Applicant(s)

GEORGESCU, SORIN S.

Art Unit

2818



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 8/30/2005.
2. ☒ The allowed claim(s) is/are 1-10.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).


* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date 4/26/2005 / 6/23/03
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____.
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.


David Nelms
Supervisory Patent Examiner
Technology Center 2800

DETAILED ACTION

Examiner's Amendment.

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

-- Cancel non-elected Claims 10 bis (independent) and 11-52 --

Reason for allowance

2. Claims 1-10 are allowed. The following is an examiner's statement of reason for allowance: None of the references of record teaches or suggests the claimed **NON-**

VOLATILE MEMORY INTEGRATED CIRCUIT

having the limitations:

-- "(b) a plurality of parallel pairs of parallel implant region lines of a second conductivity type in the first region, wherein each of the columns of the non-volatile memory cells overlaps a respective one of the pairs of the implant regions lines, respective subportions of one of the implant region lines of the pair comprise respective source regions for the respective memory cells of the respective column, respective subportions of the other implant region line of the pair comprise respective drain regions for the respective memory cells of the column, and respective

subportions of the first region between the respective source and drain regions of the respective memory cells comprises respective channel regions of the respective memory cells of the column;

(c) one or more dielectric region lines in the first region and parallel to the implant region lines, wherein at least one of the dielectric region lines is between adjacent said pairs of the implant region lines;

(d) a tunnel dielectric layer formed in a vicinity of the source region of each of the non-volatile memory cells, wherein the tunnel dielectric layer is in contact with the respective source region;

(e) a plurality of regions of a first polysilicon layer, wherein each said non-volatile memory cell has one of the first polysilicon layer regions over the source region and over and in contact with the tunnel dielectric layer, the first polysilicon region being a floating gate that terminates over the channel region without extending to the drain region of the memory cell;

(f) a plurality of lines of a second polysilicon layer each extending perpendicularly to the implant region lines, wherein each said second polysilicon layer line integrally overlies all of the memory cells of a row and the dielectric region line between adjacent memory cells of the row, and a respective subportion of the second polysilicon layer line is a control gate of each said memory cell of the row; and

(g) at each of the non-volatile memory cells, a dielectric layer separating the second polysilicon layer line from the region of, first region surface over the channel region, and the drain region. "--

and all other limitations as recited in claim 1.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance".

Conclusion

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: Kazerounian (US patent 5,327,378) discloses an easily manufacturable compact EPROM

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thinh T Nguyen whose telephone number is 571-272-1790. The examiner can normally be reached on Monday-Friday 9:00am-6:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Nelms can be reached at 571-272-1787. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9306 for regular communications and (703) 872-9319 for After Final communications.

Art Unit: 2818

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval [PAIR] system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Thinh T Nguyen

TTN

Art unit 2818



David Nelms
Supervisory Patent Examiner
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